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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/696,277	10/29/2003	Todd Hays	074872.0105	6495

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EXAMINER

PECHHOLD, ALEXANDRA K

ART UNIT	PAPER NUMBER
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3671

DATE MAILED: 04/14/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

10/696,277

Applicant(s)

HAYS ET AL.

Examiner

Alexandra K Pechhold

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 09 February 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☐ Claim(s) \_\_\_\_\_ is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-11, 13-18 and 20 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

## DETAILED ACTION

### ***Claim Rejections - 35 USC § 103***

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. **Claims 1-3, 6, 8, 9, 18, and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Dillingham (US 6,012,870) in view of Clutter et al (US 5,977,730).**

Regarding claim 1, Dillingham discloses a pavement repair system comprising:

- a vehicle, disclosed in column 3, lines 2-6,
- a hopper on the vehicle, seen as mixing chamber (21),
- at least one flameless heating element, seen as electric immersion heater (59) (Col 4, lines 8-9), the heating element operable to maintain aggregate material in the hopper within a selected temperature range; and
- an on board generator disposed on the vehicle, seen as the 6000 watt on board generator that supplies electricity to power heater (59) (Col 4, lines 10-12), powered by the vehicle and operable to provide power to the at least one flameless heating element during vehicle operation.

Dillingham fails to disclose aggregate materials, because Dillingham discloses

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that the new materials which are preferred for use in the method do not generally require mixing stone aggregate with an asphaltic binder in the mixing chamber (Col 2, lines 39-41). Yet it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the system of Dillingham so that the heating element is operable to maintain *aggregate* material, since the claim language as written merely requires the heating element to be capable of maintaining aggregate in the hopper within a selected temperature, which the heating element of Dillingham is entirely capable of doing, and furthermore, Dillingham states in column 2, lines 39-41 that aggregate is not generally required, which leaves the possibility that it may be used even though it is not necessary.

Dillingham also fails to disclose the on-board generator as being hydraulically driven. Clutter teaches a prime mover (10) having a direct current electrical generator (22) driven by the engine (20), generator (22) preferably being hydraulically driven (Col 6, lines 3-9). Clutter discloses that the armature (60) of the generator (22) is connected to a hydraulic motor powered by a constant flow of hydraulic fluid from a hydraulic pump driven by an engine (20,24) of the prime mover (10) (Col 8, lines 3-10). It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the on board generator of Dillingham to be hydraulically driven as taught by Clutter, since Clutter states in column 6, lines 6-9 that the generator can be driven through a belt-drive or similar connection but preferably is hydraulically driven, and states in column 5, lines 1-5 the advantage of a smooth flow of hydraulic fluid.

Regarding claim 2, Dillingham discloses an electric heater (59).

Regarding claim 3, Dillingham discloses that heater (59) is an electric immersion heater in column 4, lines 8-9.

Regarding claim 8, Dillingham discloses commercially available temperature gages (82, 84 in Fig. 7) used to constantly monitor the temperature of the heat chamber and mixer chamber (Col 4, lines 12-14).

Regarding claim 9, the mixing chamber (21) is an enclosed cylinder, which can be viewed as an air jacket.

Regarding claim 18, Dillingham discloses the limitations of the claimed invention as discussed in regards to claims 1 and 9 above.

Dillingham fails to disclose aggregate materials, because Dillingham discloses that the new materials which are preferred for use in the method do not generally require mixing stone aggregate with an asphaltic binder in the mixing chamber (Col 2, lines 39-41). Yet it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the system of Dillingham so that the heating element is operable to maintain *aggregate* material, since the claim language as written merely requires the heating element to be capable of maintaining aggregate in the hopper within a selected temperature, which the heating element of Dillingham is entirely capable of doing, and furthermore, Dillingham states in column 2, lines 39-41 that aggregate is not generally required, which leaves the possibility that it may be used even though it is not necessary.

Dillingham also fails to disclose the on-board generator as being hydraulically driven. Clutter teaches a prime mover (10) having a direct current electrical generator

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(22) driven by the engine (20), generator (22) preferably being hydraulically driven (Col 6, lines 3-9). Clutter discloses that the armature (60) of the generator (22) is connected to a hydraulic motor powered by a constant flow of hydraulic fluid from a hydraulic pump driven by an engine (20,24) of the prime mover (10) (Col 8, lines 3-10). It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the on board generator of Dillingham to be hydraulically driven as taught by Clutter, since Clutter states in column 6, lines 6-9 that the generator can be driven through a belt-drive or similar connection but preferably is hydraulically driven, and states in column 5, lines 1-5 the advantage of a smooth flow of hydraulic fluid.

Regarding claims 6 and 20, Dillingham fails to disclose the maintaining the aggregate materials within the hopper between 250-350 or 275-300 degrees Fahrenheit. But Dillingham does disclose that commercially available temperature gages (82, 84 in Fig. 7) are used to constantly monitor the temperature of the heat chamber and mixer chamber (Col 4, lines 12-15). It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the temperature of the mixing chamber in Dillingham so that materials are maintained between 250-350 or 275-300 degrees Fahrenheit, since Dillingham discloses in column 4, lines 12-15 that commercially available temperature gages are used to constantly monitor the temperature of the heat chamber and mixer chamber, and furthermore, asphalt is heated to a desired temperature based on the application, materials, etc.

**3. Claims 4, 5, and 7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Dillingham (US 6,012,870) and Clutter et al (US 5,977,730) as applied to claim 1, and further in view of Dillingham (US 5,988,935).**

Regarding claim 4, Dillingham '870 fails to disclose two heating elements. Dillingham '870 just discloses the one heating element (59). Dillingham '935 teaches two electric heating elements (25, 27) seen in Fig. 3 as disposed within an air jacket proximate the hopper above. It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the single electric heating element of Dillingham '870 to comprise two electric heating elements disposed within an air jacket proximate the hopper as taught by Dillingham '935, since Dillingham '935 states in column 6 lines 24-33 that the hopper compartment can be heated more economically with a dry radiant heat source, and thereby having two such heat sources improves the efficiency and economy of the heating process.

Regarding claim 5, Dillingham discloses a 54.75 kw heater in column 4, line 9.

Regarding claim 7, Dillingham '870 fails to disclose a first and second heating element, and maintaining the aggregate materials temperature between 275-300 degrees Fahrenheit. But Dillingham '870 does disclose that commercially available temperature gages (82, 84 in Fig. 7) are used to constantly monitor the temperature of the heat chamber and mixer chamber (Col 4, lines 12-15). Dillingham '870 just discloses the one heating element (59). Dillingham '935 teaches two electric heating elements (25, 27) seen in Fig. 3 as disposed within an air jacket proximate the hopper above, one being adjacent to a first side of the hopper and the other adjacent a second

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side of the hopper in Fig. 3. It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the single electric heating element of Dillingham '870 to comprise two electric heating elements disposed within an air jacket proximate the hopper as taught by Dillingham '935, since Dillingham '935 states in column 6 lines 24-33 that the hopper compartment can be heated more economically with a dry radiant heat source, and thereby having two such heat sources improves the efficiency and economy of the heating process. It would also have been obvious to one having ordinary skill in the art at the time the invention was made to modify the temperature of the mixing chamber in Dillingham '870 to be maintained so that the materials are between 275-350 degrees Fahrenheit, since Dillingham discloses in column 4, lines 12-15 that commercially available temperature gages are used to constantly monitor the temperature of the heat chamber and mixer chamber, and furthermore, asphalt is heated to a desired temperature based on the application, materials, etc.

**4. Claims 10 and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Dillingham (US 6,012,870) and Clutter et al (US 5,977,730) as applied to claim 1, and further in view of Kleiger (US 5,419,654).**

Regarding claim 10, Dillingham fails to disclose alternate powering by an external power source. Kleiger teaches auxiliary means in the form of electrical heating elements inserted into opposing ends of a heating tube for coupling with external powers such as a 110 V AC source (Col 2, lines 15-18). It would also have been obvious to one having ordinary skill in the art at the time the invention was made to



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modify the heating element of Dillingham to alternately have an external power source as taught by Kleiger, since an external power source serves as a back-up source of power in the event the on-board generator fails.

Regarding claim 11, a power cord is well-known for supplying power.

**5. Claims 13 and 15-17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Dillingham (US 6,012,870) and Clutter et al (US 5,977,730) in view of Kleiger (US 5,419,654).**

Regarding claim 13, Dillingham discloses the hopper body, at least one flameless heating element, and on-board generator powered by a pavement repair vehicle as discussed in regards to claim 1 above.

Dillingham fails to disclose aggregate materials, because Dillingham discloses that the new materials which are preferred for use in the method do not generally require mixing stone aggregate with an asphaltic binder in the mixing chamber (Col 2, lines 39-41). Yet it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the system of Dillingham so that the heating element is operable to maintain *aggregate* material, since the claim language as written merely requires the heating element to be capable of maintaining aggregate in the hopper within a selected temperature, which the heating element of Dillingham is entirely capable of doing, and furthermore, Dillingham states in column 2, lines 39-41 that aggregate is not generally required, which leaves the possibility that it may be used even though it is not necessary.

Dillingham also fails to disclose the on-board generator as being hydraulically driven. Clutter teaches a prime mover (10) having a direct current electrical generator (22) driven by the engine (20), generator (22) preferably being hydraulically driven (Col 6, lines 3-9). Clutter discloses that the armature (60) of the generator (22) is connected to a hydraulic motor powered by a constant flow of hydraulic fluid from a hydraulic pump driven by an engine (20,24) of the prime mover (10) (Col 8, lines 3-10). It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the on board generator of Dillingham to be hydraulically driven as taught by Clutter, since Clutter states in column 6, lines 6-9 that the generator can be driven through a belt-drive or similar connection but preferably is hydraulically driven, and states in column 5, lines 1-5 the advantage of a smooth flow of hydraulic fluid.

Dillingham fails to disclose alternate powering by an external power source. Kleiger teaches auxiliary means in the form of electrical heating elements inserted into opposing ends of a heating tube for coupling with external powers such as a 110 V AC source (Col 2, lines 15-18). It would also have been obvious to one having ordinary skill in the art at the time the invention was made to modify the heating element of Dillingham to alternately have an external power source as taught by Kleiger, since an external power source serves as a back-up source of power in the event the on-board generator fails.

Regarding claim 15, Dillingham discloses that heater (59) is an electric immersion heater in column 4, lines 8-9.

Regarding claims 16 and 17, Dillingham fails to disclose the maintaining the aggregate materials within the hopper between 250-350 degrees or 275-300 degrees Fahrenheit. But Dillingham does disclose that commercially available temperature gages (82, 84 in Fig. 7) are used to constantly monitor the temperature of the heat chamber and mixer chamber (Col 4, lines 12-15). It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the temperature of the mixing chamber in Dillingham to be maintained between 250-350 or 275-300 degrees Fahrenheit, since Dillingham discloses in column 4, lines 12-15 that commercially available temperature gages are used to constantly monitor the temperature of the heat chamber and mixer chamber, and furthermore, asphalt is heated to a desired temperature based on the application, materials, etc.

**6. Claim 14 is rejected under 35 U.S.C. 103(a) as being unpatentable over Dillingham (US 6,012,870), Clutter et al (US 5,977,730), and Kleiger (US 5,419,654) as applied to claim 13 above, and further in view of Dillingham (US 5,988,935).**

Dillingham '870 fails to disclose two heating elements. Dillingham '870 just discloses the one heating element (59). Dillingham '935 teaches two electric heating elements (25, 27) seen in Fig. 3 as disposed within an air jacket proximate the hopper above. It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the single electric heating element of Dillingham '870 to comprise two electric heating elements disposed within an air jacket as taught by Dillingham '935, since Dillingham '935 states in column 6 lines 24-33 that the hopper compartment can

be heated more economically with a dry radiant heat source, and thereby having two such heat sources improves the efficiency and economy of the heating process.

### ***Response to Arguments***

7. Applicant's arguments filed 2/9/05 have been fully considered but they are not persuasive.

Applicant argues that Dillingham fails to specify how the "on board generator" is powered, or what it is "on board" with respect to. Claim 1, for example, merely recites "a hydraulically driven on-board generator disposed on the vehicle, powered by the vehicle and operable to provide power to the at least one flameless heating element during vehicle operation." Since Dillingham discloses a portable device mounted on a trailer or truck, the on-board generator is therefore disposed on the vehicle one way or another, despite the lack of details in Dillingham as to where exactly it is located, and capable of being powered by the vehicle.

Applicant has amended the independent claims by the insertion of "aggregate" in attempt to distinguish from Dillingham's improvement of an aggregate-free application system. Yet Dillingham addresses the fact that aggregate is traditionally used, and in Dillingham's invention, aggregate is no longer generally required (Col 2, lines 39-41). Therefore, Dillingham envisions that aggregate may be used, though the improvement is that it is not required. Furthermore, the claim language as written merely requires the heating element to be capable of maintaining aggregate in the hopper within a selected temperature, which the heating element of Dillingham is entirely capable of doing,

With respect to the applicant amending the independent claims to recite that the generator is hydraulically driven, the arguments are moot in light of the new rejection using Clutter et al (US 5,977,730) addressing this limitation.

***Conclusion***

8. Applicant's amendment necessitated the new grounds of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

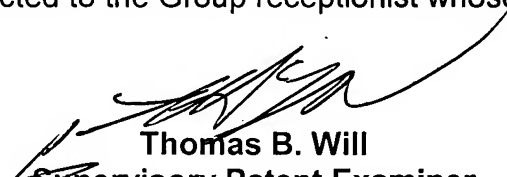
A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Alexandra Pechhold whose telephone number is (703) 305-0870. The examiner can normally be reached on Mon-Thurs. from 8:00am to 5:30pm and alternating Fridays from 8:00am to 4:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Thomas B. Will, can be reached on (703)308-3870. The fax phone number for this Group is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group receptionist whose telephone number is (703) 308-1113.



Thomas B. Will  
Supervisory Patent Examiner  
Group 3600

AKP  
4/12/05